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| EXAMINER |
|---|
| CHENEY, BOBAE K. |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>04 May 2010</u>.

2a) ☒ This action is **FINAL**.     2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>31 August 2006</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>05/04/2010</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

## DETAILED ACTION

1.      Claims 1, 2, 4, 7, 17, and 18 has been amended by applicant.

### *Information Disclosure Statement*

2.      The information disclosure statement (IDS) submitted on 05/04/2010.  The

submission is in compliance with the provisions of 37 CFR 1.97.  Accordingly, the

information disclosure statement is being considered by the examiner.

### *Claim Rejections - 35 USC § 103*

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.      **Claims 1 and 2** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Weare (Patent 7,013,238) in view of Shraim (US Publication 2007/0299915) and Gurelli

(US Publication 2006/0171356).

5.      Regarding to **claim 1**, "a method, comprising: conducting, by a learning

component of a server of a network, different trials of one or more options in different

states of a network communication between a client and the server via a protocol of the

network communication, wherein each trials is defined by a combination of the one or

more options occurring at a particular state of the network communication," Weare

teaches recommendation engine providing recommendations (trials) [Column 5 Line 40

- 54].  "Receiving, by the learning component, performance feedback for the different

trials as rewards," Weare teaches receiving feedback [Column 4 Line 37 – 49], but does

not expressly teach automated feedback. However, Shraim teaches automatic

feedback loop [Paragraph 132]. It would have been obvious to one of ordinary skill in

the art at the time of the invention to use automated feedback taught by Shraim in

getting feedback taught by Weare for the purpose of self-tuning and providing best

service without human intervention. "Utilizing, by the learning component, the different

trials and their associated resulting rewards to improve a decision-making policy made

by an option negotiation component of the server for negotiation of one or more options,

wherein the one or more options defining specifications of the network communication

between the server and the client," Weare teaches generating recommendations, which

automatically optimizing its parameters (utilizing) by using feedback [Column 4 Line 37

– 49]. Wear does not expressly teach improving option negotiation decision, wherein

the options defining specifications of the network communication. However, Gurelli

teaches determining data rate using feedback (improving option negotiation) [Paragraph

5 and 6]. It would have been obvious to one of ordinary skill in the art at the time of the

invention to improve option negotiation taught by Gurelli when receive feedback taught

by Weare for the purpose of improve reliability of network communication.

6.      Regarding to **claim 2**, "further comprising uploading, based on the different trials

and rewards, an optimum set of options associated with an observed configuration of

the server, the client, and a network environment enabling the network communication

between the server and the client to a centralized place," Weare teaches parameter

controller uses the feedback to adjust the parameters and sends the adjusted

parameters to the affinity predictor where determining recommendations [Column 5 Line

40 – 67].

7.      **Claims 8, 13, 15, and 20** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Weare (Patent 7,013,238) in view of Shraim (US Publication

2007/0299915).

8.      Regarding to **claim 8**, "an apparatus, comprising: a file transfer component to

transfer a file utilizing an optimum set of the one or more options selected by the option

negotiation component based on the rewards and adjusted selections," Weare teaches

parameter controller uses the feedback to adjust the parameters and sends the

adjusted parameters to the affinity predictor where determining recommendations

[Column 5 Line 40 – 67]. "An option negotiation component to select one or more

options for a communication protocol, receive rewards as performance feedback

associated with the selection of the one or more options, and adjust the selection of the

one or more options based on the rewards," Weare teaches recommendation engine

providing recommendations (trials) [Column 5 Line 40 - 54] and generating

recommendations, which automatically optimizing its parameters (utilizing) by using

feedback [Column 4 Line 37 – 49]. Weare teaches receiving feedback [Column 4 Line

37 – 49], but does not expressly teach automated feedback. However, Shraim teaches

automatic feedback loop [Paragraph 132]. It would have been obvious to one of

ordinary skill in the art at the time of the invention to use automated feedback taught by

Shraim in getting feedback taught by Weare for the purpose of self-tuning and providing

best service without human intervention.

9.      Regarding to **claim 13**, "wherein the option selection component further to upload the optimum set of options and associated configurations of an environment associated with the optimum set of options to a centralized place," Weare teaches parameter controller uses the feedback to adjust the parameters and sends the adjusted parameters to the affinity predictor where determining recommendations [Column 5 Line 40 – 67].

10.     **Claim 15** is similar to claim 8.  Therefore, claim 15 is rejected under the similar ground.

11.     **Claim 20** is similar to claim 13.  Therefore, claim 20 is rejected under the similar ground.

12.     **Claims 3 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare, Shraim, and Gurelli as applied to claims 2 and 13 above, and further in view of Stakutis (US Publication 2005/0251516).

13.     Regarding to **claim 3**, "wherein one or more other servers download from the centralized place the optimum set of options to utilize as an initial point to start a new learning process in the environment of the one or more other servers," Weare teaches using feedback to adjust the parameters and sending the adjusted parameters (optimum set of options) to the affinity predictor where they are used at the beginning of the cycle for determining recommendations [Column 5 Line 40 – 67].  Weare does not expressly teach one or more other servers download from the centralized place the optimum set of options.  However, Stakutis teaches central pool of storage (centralized place) shared in multiple nodes (server) [Figure 1, Paragraph 39].  It would have been

obvious to one of ordinary skill in the art at the time of the invention to share in multiple

nodes taught by Stakutis adjusted parameters taught by Weare for the purpose of

provide information without adding more hardware when additional server is added.  By

using central server, cost of adding additional server in the network since the server

does not need separate storage for information.

14.     **Claim 14** is similar to claim 3.  Therefore, claim 14 is rejected under the similar

ground.

15.     **Claims 4 – 6, 9 – 11, and 16 – 18** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Weare, Shraim, and Gurelli as applied to claims 1, 8, and 15 above,

and further in view of Young (US Publication 2003/0074338).

16.     Regarding to **claim 4**, Weare teaches option negotiation, but does not expressly

teach "wherein the option negotiation component applies a reinforcement learning

algorithm to improve the decision-making policy for negotiation of the one or more

options."  However, Young teaches using reinforcement learning algorithm [Paragraph

4, 5].  It would have been obvious to one of ordinary skill in the art at the time of the

invention to use reinforcement learning algorithm taught by Young in option negotiation

taught by Weare for the purpose of to optimize performance and improve the system in

long term operation without involvement of human.

17.     Regarding to **claim 5**, "wherein the reinforcement algorithm utilizes a Q-learning

method," Young teaches applying Q-learning algorithm to implement the reinforcement

learning [Paragraph 6].

18.     Regarding to **claim 6**, "wherein the Q-learning algorithm iteratively calculates value functions of an optimal policy for option selection by the option negotiation component," Young teaches using value function to find solutions [Paragraph 7].

19.     **Claims 9 and 16** are similar to claim 4.  Therefore, claims 9 and 16 are rejected under the similar ground.

20.     **Claims 10 and 17** are similar to claim 5.  Therefore, claims 10 and 17 are rejected under the similar ground.

21.     **Claims 11 and 18** are similar to claim 6.  Therefore, claims 11 and 17 are rejected under the similar ground.

22.     **Claims 7, 12, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare, Shraim, and Gurelli as applied to claims 1, 8, and 15 above, and further in view of Zhu (US Publication 2006/0274899).

23.     Regarding to **claim 7,** Weare teaches option negotiation component, but does not expressly teach "wherein the server is a trivial file transfer protocol (TFTP) server." However, Zhu teaches TFTP server providing management functions [Paragraph 7].  It would have been obvious to one of ordinary skill in the art at the time of the invention to have option negotiation component taught by Weare in TFTP server taught by Zhu for the purpose of providing a simple, predetermined content and small capacity of file transferring service.

24.     **Claims 12 and 19** are similar to claim 7.  Therefore, claims 12 and 19 are rejected under the similar ground.

### *Response to Arguments*

25.     Applicant's arguments, see page 7, filed 05/04/2010, with respect to objection of

claims 10, 11, 17, and 18 have been fully considered and are persuasive.  The objection

of claims 10, 11, 17, and 18 has been withdrawn.

26.     Applicant's arguments with respect to claims 1 have been considered but are

moot in view of the new ground(s) of rejection.

27.     Applicant's arguments filed 05/04/2010 have been fully considered but they are

not persuasive. Regarding to claims 8 and 15, applicant said "independent claims 8 and

15 recited similar features as claim 1."  However, claim 1 was amended and 8 and 15

was not amended.  Therefore, there's difference in claim 1 and claims 8 and 15.  The

rejection for 8 and 15 remains the same as previous office action.

### *Conclusion*

28.     Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action.  Accordingly, **THIS ACTION IS MADE FINAL.**  See MPEP

§ 706.07(a).  Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

         A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action.  In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBAE K. CHENEY whose telephone number is (571)270-7641. The examiner can normally be reached on Monday - Thursday 7:30 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Avellino can be reached on (571)272-3905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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